July 24, 2003

IN RE: DOCKET NO. 2002-367-C

COPY OF **DIRECT TESTIMONY OF DR. BRIAN K. STAIHR FILED ON BEHALF OF SPRINT** HAS BEEN DISTRIBUTED TO THE FOLLOWING:

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July 23, 2003

Via hand-delivery

Mr. Gary Walsh
Executive Director
South Carolina Public Service Commission
101 Executive Center Drive
Columbia, SC 29210

Re: Generic Proceeding to Address the Definition of "Abuse of Market Position"
Docket No. 2002-367-C

Dear Mr. Walsh:

Enclosed for filing are the original and twenty-five (25) copies of the Direct Testimony of Dr. Brian K. Staihr in the above-captioned matter. Also enclosed is the Certificate of Service evidencing service on all parties of record.

I am enclosing an extra copy of Dr. Staihr's Testimony which I would ask you to date stamp and return to me by my courier.

If you have question, please feel free to contact me.

Sincerely yours,

ELLIOTT & ELLIOTT, P.A.

Scott Elliott

SE/jhp

Enclosures

c: All parties of Record (w/ enc)

CERTIFICATE OF SERVICE

I hereby certify that I have served a copy of the foregoing Direct Testimony of Dr. Brian K. Staihr in connection with the Generic Proceeding to Address the Definition of "Abuse of Market Position," Docket No. 2002-367-C upon all parties of record by depositing copies addressed to each as follows in the United States Mail, first-class postage prepaid.

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July 23, 2003.

UNITED TELEPHONE COMPANY OF THE CAROLINAS

DIRECT TESTIMONY

OF

DR. BRIAN K. STAIHR

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA

Docket No. 2002-367-C

I. BACKGROUND/PURPOSE

Q. Please state your name, title, and business address.

A. My name is Brian K. Staihr. I am employed by Sprint Corporation as Senior Regulatory Economist in the Department of Law and External Affairs. My business address is 6450 Sprint Parkway, Overland Park, Kansas 66251.

Q. Please briefly describe your educational background and work experience.

A. I hold a B.A. in Economics from the University of Missouri-Kansas City, and an M.A. and Ph.D. in Economics from Washington University in St. Louis. My field of specialization is Industrial Organization, including Regulation.

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OK DW

I have been a part of Sprint's Regulatory Policy Group since 1996. In my current position I am responsible for the development of state and federal regulatory and legislative policy for all divisions of Sprint Corporation. I am also responsible for the coordination of policy across business units. My particular responsibilities include 1) ensuring that Sprint's policies are based on sound economic reasoning, 2) undertaking or directing economic/quantitative analysis to provide support for Sprint's policies, and 3) conducting original research. The specific policy issues that I address include universal service, pricing, costing (including cost of capital), access reform, reciprocal compensation and interconnection, local competition, and more.

In my position I have appeared before the Public Service Commission of South Carolina, the Florida Public Service Commission, the Kansas Corporation Commission, the New Jersey Board of Public Utilities, the Pennsylvania Public Utility Commission, the North Carolina Utilities Commission, the Public Service Commission of Nevada, the Texas Public Utilities Commission, the Illinois Public Service Commission, the Oregon Public Utility Commission, and the Missouri Public Service Commission. I have also worked extensively with the Federal Communication Commission's staff and presented original research to the FCC. My work has also been used in congressional oversight hearings.

In January 2000 I left Sprint temporarily to serve as Senior Economist for the Federal Reserve Bank of Kansas City. There I was an active participant in the Federal Open Market Committee process, the process by which the Federal Reserve sets interest rates.

In addition, I conducted original research on telecommunication issues and the effects of deregulation. I returned to Sprint in December 2000.

For the past eight years I have also served as Adjunct Professor of Economics at Avila University in Kansas City, Missouri. There I teach both graduate and undergraduate level courses.

Prior to my work in Sprint's Regulatory Policy Group, I served as Manager-Consumer Demand Forecasting in the marketing department of Sprint's Local Telecom Division. There I was responsible for forecasting the demand for services in the local market, including basic local service, and producing elasticity studies and economic and quantitative analysis for business cases and opportunity analyses.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to discuss, from an economic standpoint, the proper definition of the phrase "abuse of market position" as it appears in paragraph (B) (5) of Section 58-9-576 of the Code of Laws of South Carolina Annotated. In discussing this definition I also respond to the testimony of Dr. James E. Spearman, Research and Planning Administrator for the Public Service Commission of South Carolina, filed July 9, 2003. I also discuss why it is extremely unlikely that any firm would be able to engage in an "abuse of market position" in the telecommunications market in South Carolina.

II. MARKET POWER V. MARKET POSITION

Q. Is an abuse of market power the same thing as an abuse of market position?

A. The two can be closely related, but they are not exactly the same thing. Simply put, behavior that constitutes "an abuse of market power" is one way in which a firm might (theoretically) abuse its market position

Q. In the discussion of the phrase "abuse of market position" that appears in Dr. Spearman's testimony, he states that he considers the words "position" and "power" to "have the same meaning and to be interchangeable" (Spearman page 2). Do you agree?

A. I do understand the connection that Dr. Spearman attempts to make between the two, but the two phrases do not have exactly the same meaning, nor are they perfectly interchangeable. Theoretically, one possible way that a firm might "abuse its market position" would be to engage in a specific behavior that could be characterized as "abusing market power." But in discussing this connection it is important to understand that market power, in and of itself, is simply a characteristic of certain markets. It is not a problem, nor is it undesirable. To put this in perspective, it is helpful to consider a few real-world examples. McDonalds has market power. Sears has market power. Even Ben & Jerry's has market power.

Q. Dr. Spearman, in his testimony, provides two different definitions of market power. Do you agree that those definitions are accurate?

A. I agree that the two definitions provided by Dr. Spearman are accurate, but the two definitions are actually much closer to each other than he suggests. The definition that Dr. Spearman takes from the Department of Justice Merger Guidelines indicates that market power is "the ability to profitably maintain prices above competitive levels for a significant period of time" (Spearman page 2). And Dr. Spearman states, correctly, that this definition is limited to prices that are higher than competitive levels. The other definition, which Dr. Spearman quotes from economist Andreu Mas-Collel, is "The ability to alter profitably prices away from competitive levels" (Spearman page 2). Dr. Spearman suggests that this definition allows prices to be either above or below competitive levels. I would agree with Dr. Spearman if the quote from Mas-Collel did not contain the word *profitably.*

In most cases when prices are said to move toward competitive levels this generally refers to a level at or around some measure of cost. Although there are many different measures of cost, and different ways of calculating cost, it is impossible for a company to *profitably* move prices below cost. For example, in the classic textbook case of predatory pricing (discussed in more detail below), a firm may move prices below cost as a temporary strategy intended to drive a competitor out of the market. During the period of time when prices are below cost the firm is not profitable. It is only upon raising prices above cost, after the competitor has exited the market, that the firm returns to profitability. So the *profitable* price movement is the movement above costs, not the movement below costs.

Given this fact, it is possible to limit the discussion of market power to the first definition that Dr. Spearman provides: The ability to profitably maintain prices above competitive levels for a significant period of time.

Q. Given that definition, please explain (as you stated above) why market power is not a problem, nor is it undesirable.

A. Almost every firm has market power. The total absence of market power only exists in the textbook world of perfect competition. In that world, all firms in a market produce products that are indistinguishable from each other, and customers make purchase decisions based on price and nothing else. But perfect competition exists only in textbooks. As economist David C. Colander has written,

> In physics when you study the laws of gravity, you initially study what would happen in a vacuum. Perfect vacuums don't exist, but talking about what would happen if you dropped an object in a perfect vacuum makes the analysis easier. So too in economics. Our equivalent of a perfect vacuum is perfect competition.[1]

In the real world products are differentiated. They exhibit different characteristics that affect a customer's purchase decision. Even a product that, at first glance, appears indistinguishable between providers can be differentiated. A good example of this is wireless calling. To the extent that customers believe that one wireless provider offers a

[1] David C. Colander, *Economics*, Richard D. Irwin, Inc. Publishing, 1995, p. 549.

different quality of service, or more clarity of connection, or even a more courteous help desk than another, these characteristics differentiate the various offerings. And customers choose one provider over another based on these differences. Price may also figure into their decision, or it may not. But when any firm sells a product that is somehow differentiated, that firm will exhibit some degree of market power.[2] That is why McDonalds and Sears and Ben & Jerry's all possess market power. A Big Mac is a different product than a Wendy's Single, and Ben & Jerry's ice cream is not Hagen-Daas.[3]

Because customers have different tastes and preferences, this product differentiation produces a benefit to customers. And the associated market power is a very small price to pay—in terms of economic inefficiency—to bring about this variety.[4] In a market that exhibits product differentiation, which is virtually every market that exists, the benefits of variety outweigh the costs of providing that variety. If they didn't, firms would compete on price alone.

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[2] See, for example, Browning, Edgar K. and Mark A. Zupan, *Microeconomic Theory and Application*, Addison-Wesley, 1999, p. 330.

[3] It is important to note that this variety among products does not need to be real, but merely perceived in the customer's mind, and still produce market power. A classic example is a product such as aspirin. In reality, one firm's aspirin is truly indistinguishable from another firm's aspirin, suggesting that aspirin might be sold in a perfectly competitive market. But if, for whatever reason, some customers believe that Bayer aspirin is "better" than another brand, or better than a generic, they are willing to pay a price that reflects this perceived "difference" and the market for aspirin is not perfectly competitive but rather monopolistically competitive.

[4] The efficiency argument regarding differentiated products is that this type of market structure tends to cause firms to have spare capacity. Theoretically, this spare capacity would not exist in a perfectly competitive market. See, for example, Ruffin and Gregory, *Principles of Economics*, Harper Collins 1993, p.601.

Q. So how does this product differentiation involve pricing above a competitive level?

A. First it involves having control over the price. In the real world, where products are differentiated...

> ...because products differ, the seller has some control over price. The degree of the control may be quite limited, but it exists. The seller who raises the price will not lose all customers (as would the perfect competitor) because some will have such a strong preference that they will accept the higher price.[5]

This simply means that customers perceive differences among products and are willing to pay for those differences. Similarly, if a firm lowers its price it may gain some customers, but not all customers (as it would in perfect competition) because there will be a set of customers who prefer the service they are currently receiving even in the face of a more inexpensive alternative.[6]

Second, product differentiation creates different *costs* among firms. Because products are differentiated, the costs (average costs, incremental costs, etc.) incurred by each firm will vary as well. The cost of producing Hagen Daas ice cream is different than the cost of producing Ben & Jerry's ice cream. As I said above, to price at a competitive level generally suggests a price at or around cost. As costs differ, so too will prices. And as customers perceive differences among firms they are happy to pay for those differences.

[5] Ruffin and Gregory, *Principles of Economics*, Harper Collins 1993, p. 599.
[6] Another reason for this, aside from the fact that the products are not homogeneous, is that customers actually incur a cost each time they change service providers. They incur research costs and transaction costs, as well as costs associated with uncertainty regarding an unfamiliar service. If these perceived costs outweigh the perceived benefits of switching providers, customers will not switch.

Q. So how does the existence of market power differ from an abuse of market power?

A. The *existence* of market power is simply a characteristic of a market. The *abuse* of market power is a behavioral phenomenon. For example, consider a true monopoly that is not a telephone company, not a regulated utility, but simply the sole provider of a good in a market. If the monopolist is not regulated, and the monopolist faces neither competitors nor *the threat of competition*, the monopolist could theoretically choose to produce a level of output that results in a price that is significantly above a competitive level. The monopolist achieves this result by *restricting output*. Of course, restricting output is not a behavior that is an option for an incumbent telephone company in South Carolina; Sprint cannot simply decide one day to stop serving half of its customers.

Q. How does restricting output result in a higher price?

A. Because demand is downward-sloping with regard to price, larger quantities of output are only demanded when they are offered at lower prices. And larger quantities can only be sold at lower prices. Smaller quantities of output are demanded and can be sold at higher prices. Assuming the market is closed and the monopolist faces no competition nor the threat of competition, the monopolist might choose to produce a smaller amount of output, knowing that each unit can be sold at a higher price. And such behavior could be viewed as an abuse of market power. Of course, as I stated above, incumbent telephone companies in South Carolina cannot choose the level of output they will produce. So this type of abuse of market power in not possible in the case of Sprint in

South Carolina, or any other local telephone company. The Department of Justice Merger Guidelines, that Dr. Spearman uses as his source for his definition of market power, contain a discussion of restricting output and how it is tied to market power.[7]

Q. So the existence of market power is a characteristic of markets, while the abuse of market power requires a specific action on the part of the firm?

A. Yes. In the example above the higher price was created by the monopolist choosing to restrict its output and customers having no other option. In that example the market was not open, and there was no product variety. That is a very different thing from customers simply choosing to pay a slightly higher price in exchange for product variety and perceived product differentiation. As economist Dr. Janusz Ordover, a well-known expert in regulation, has written:

> In an effectively competitive market, one or more firms may possess some degree of market power, yet pose no significant risk to present and future competition.[8]

Q. So is an abuse of market <u>position</u> the same thing as an abuse of market <u>power</u>?

A. Returning to the example I provided, it is the hypothetical monopolist's *position* in the market—no competitors, no threat of competitors—that allows it to behave in such a way as to abuse market power. As I stated above, theoretically, one possible way that a firm might "abuse its market position" would be to engage in a specific behavior—

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[7] Available at www.usdoj.gov

[8] Janusz Ordover, *Effective Telecommunications Service Competition in Australia and the Need for Regulatory Reform,* November 26, 2000, p. 9. Available at www.pc.gov.au/inquiry/telecommunications.

choosing to restrict output—that could be characterized as "abusing market power." But again, this type of behavior is not an option for telephone companies in South Carolina.

III. OTHER ABUSES OF MARKET POSITION

Q. Are there other possible ways that a firm might "abuse its market position"?

A. Theoretically, depending on the situation, a firm could attempt to engage in the type of predatory pricing that I described in the pages above: A firm could temporarily price below costs in an attempt to drive a competitor from the market, after which the firm would raise its prices back up to profitable levels. This is, I believe, the type of behavior that Dr. Spearman may have had in mind when he wrote that abuse of market position is "any action that effectively prohibits a new firm from entering a market" (Spearman page 3). Successful predatory pricing is a type of behavior that could prevent competitive entry, or drive out an existing competitor.

The reason I believe this is what Dr. Spearman envisioned is that all of the references he makes to market *power* refer to situations where prices are, in a sense, too *high*, rather than too *low*. But if a firm prices at a level that is too high (the "abuse of market power" scenario) such behavior would only attract competitors to the market, rather than keep them from entering.

Q. Does predatory pricing work?

A. Not really. While it is an interesting theory, empirical evidence of actual cases of successful predatory pricing is scarce-to-non-existent.[9] There are many reasons for this, but one of the most obvious is that the firm that attempts to undercut a rival by lowering prices below cost will often see a significant increase in quantity demanded, especially if the demand for the good is price elastic. If the rival responds by simply cutting back on output, rather than lowering prices, suddenly the overwhelming majority of the market is served by a firm that loses money on every sale. As economist Dr. N. Gregory Mankiw has written, "As in the old Roadrunner-Coyote cartoons, the predator suffers more than the prey."[10]

Q. In discussing behavior that could result in an abuse of market position Dr. Spearman mentions several other things such as economies of scale (Spearman page 4), bundling (Spearman page 5) and mergers/consolidation (Spearman pages 6-7). Please comment on each of these.

A. With regard to economies of scale, Dr. Spearman is correct that, all else held equal, a firm that operates with a production technology that exhibits economies of scale could find itself in a situation where it is most efficient for a single firm to supply an entire market; that is, a natural monopoly. However, it is useful to keep several things in mind. First, the existence of economies of scale is simply a characteristic of a technology.

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[9] See, for example, Thomas DiLorenzo, *The Myth of Predatory Pricing*, Cato Policy Analysis Paper No. 169, 1992. See also N. Gregory Mankiw, *Principles of Economics*, Harcourt College Publishers, 2001. See also Ruffin & Gregory.
[10]Mankiw, page 370.

Economies of scale do not constitute *behavior* on the part of a firm. Therefore while they could, theoretically, be a source of market power and could create a situation where another firm could not enter the market and compete successfully, economies of scale cannot constitute an abuse of market power OR market position simply because they exist, especially if we turn to Dr. Spearman's definition, which refers to an *action* that prohibits a new firm from entering a market.

Furthermore, in the case of local telephone service, the whole purpose for requiring incumbent carriers to unbundle their network elements to new competitors is so the new competitors can essentially replicate the incumbent's economies of scale. That is, a UNE-based competitor pays a price for that UNE that reflects the incumbent's costs which, by definition, reflect the economies of scale of serving the entire market. The Act required the unbundling of UNEs so that economies of scale would not be a barrier to entry, and would not create a situation where firms could not compete because to do so would require prices that reflected the scale of serving the entire market.[11]

Lastly, with regard to economies of scale, it is extremely important to remember that new entrants are not required to serve the entire market served by the incumbent. If a new entrant limits its network build-out to higher density, lower cost portions of the

[11] The FCC has been extremely clear in its position that the UNE provisions of the Act are intended for this purpose. In its UNE Remand Order the FCC stated, "We continue to believe that one important purpose of the unbundling provisions of the Act is to permit competitive LECs to compete with the same economies as the incumbents...these economies are now critical competitive attributes..." (Third Report and Order and Fourth Further Notice of Proposed Rulemaking in CC Docket 96-98, released November 5, 1999, paragraph 86.)

incumbent's serving territory the entrant's costs will be lower than the incumbent's, on average. And when a natural monopoly has a serving obligation, such as carrier of last resort status, the ability to serve the entire market more cheaply than if it were served by two firms (which is the definition of a natural monopoly) becomes a moot point, since serving the "entire" market is not a concern of any entrant.

So to summarize this discussion of economies of scale, they do not constitute an "action" that precludes the entry of competing firms, nor are they a barrier to entry when unbundled elements are available, nor are they a barrier to entry in many locations where a competitor can come in and serve only a portion of the market more cheaply than the incumbent and build a smaller, more condensed network. In terms of the proper definition of "abuse of market position" as it appears in paragraph (B) (5) of Section 58-9-576 of the Code of Laws of South Carolina Annotated, economies of scale do not in any way constitute an "abuse of market position."

Q. Please comment on Dr. Spearman's discussion of product bundling and product tie-ins as a means of abusing market position.

A. It is also useful to keep in mind that product bundles and tying arrangements, in and of themselves, do not constitute an abuse of market power. Dr. Spearman, in his testimony, makes reference to his Hewlett-Packard calculator that can only operate with a Hewlett-Packard battery pack. My own Texas Instruments calculator only operates with a Texas Instruments battery pack. Both products clearly compete with each other, despite the fact that each is "tied" to another product in some way. When competitors are capable of replicating bundling and tying arrangements—as they are in the telecommunications market in South Carolina—the likelihood of setting rates that would result in an abuse of market position is extremely small. For one thing, as Dr. Spearman points out when he references the Supreme Court ruling from 1984 in his testimony, certain conditions must exist in order for this to be possible: The firm must have significant monopoly power that results in the forced purchase of the tied products. Put simply, one of the things in the bundle must be something that customers believe they cannot get from anywhere else, and feel that they must have. Then the firm only makes that thing available when tied to other products, thereby creating the "forced purchase" of the additional products. Because competitors in the telecommunications market in South Carolina have the freedom to offer all services that other firms offer *and* have the ability to re-create any bundling or tying arrangement that any other firm might offer, it is unlikely that *any* service would meet the criteria above: Something that customers feel they cannot get from anywhere else and must have.

Q. Please comment on Dr. Spearman's discussion of mergers/consolidation as a means of abusing market position.

A. The notion that mergers or consolidation might result in an abuse of market position is based on the idea that these actions have the effect of removing a competitor from the market, thereby making the market more concentrated. The assumption that follows from this is that a more-concentrated market is a less-competitive market, and a less-competitive market might theoretically be the setting for an abuse of market power, which (as I stated above) is one form of abuse of market position. However, real-world evidence that refutes this assumption (high concentration leads to less competition) is easy to find. For example, according to Dr. Spearman's testimony a *highly-concentrated* market is one that has a Herfindahl-Hirschman Index (as he refers to it, an H-index) over 1800. This is based on the Department of Justice guidelines that Dr. Spearman cites. If we use FCC data to examine the market for long-distance calling in the years 1998-99, we find that in those years the long-distance market had an H-index well over 1800.[12] But in 1998-99 the major inter-exchange carriers were engaged in an all-out price war to see which carrier could add customers fastest (recall the dinner-time telephone calls offering endless variations on calling plans). In 1998-99 the market for long-distance calling was extremely competitive, with customers enjoying a variety of offers and pricing plans, and customers responding by increasing their demand (minutes) at a rapid pace. No one could rationally suggest that the market for long-distance calling did not have effective competition in 1998-99, despite the fact that according to the guidelines mentioned in Dr. Spearman's testimony it was highly-concentrated.

To find a non-telecom example of a highly-concentrated market that is also highly-competitive, we need only turn to the express delivery market. In this market two competitors—Federal Express and UPS—account for more than 80% market share. When two firms account for such a large market share it is a mathematical fact that the associated H-index can never be below 1800; that is, by definition the market is highly

[12] Actual measures range from 2,572 to 3,260. FCC's Industry Analysis Division's *Statistics of the Long-Distance Industry*, released May 14, 2003. Available at www.fcc.gov. Long-distance market defined as "End-User Service Ordinary Long Distance."

concentrated. Yet these two firms compete vigorously with each other, and consumers of their services are the beneficiaries of this competition.

Generally, the only way that market concentration can effectively translate to an abuse of market power is if firms can effectively reduce or restrict their output, or if firms collude. The Department of Justice Guidelines, referenced above, also contain a discussion of collusion and market power. Collusion is, of course, illegal in this country and, as I discussed above, restricting output is not an option for incumbent telephone companies in South Carolina. So the probability that market concentration could translate to some form of abuse of market position is essentially zero in this case.

IV. ABUSE OF MARKET POSITION AS IT PERTAINS TO THE SOUTH CAROLINA TELECOMMUNICATIONS MARKET

Q. Given all the discussion above, in general, how likely is it that any firm would be able to abuse its market position in South Carolina's telecommunications market?

A. It is extremely unlikely. Turning first to Dr. Spearman's definition, let us assume that an abuse of market position is an "action that effectively prohibits a new firm from entering a market." Given that definition, all of the discussions of market *power* (not market position) that Dr. Spearman presents are centered on a firm charging prices that are, in some sense, too high. Assuming the market is open, which in South Carolina it clearly is, this type of action would only create an *incentive* for a competitor to enter, not prohibit a competitor from entering. So in that sense, none of those activities constitutes an abuse of market position.

If, on the other hand, we assume that an abuse of market power is one form of abuse of market position, the question becomes: How likely is it that any firm operating could successfully engage in abusing market power? The answer is, not very likely. If there is more than one firm in a market, the ability to abuse market power depends on either restricting output or collusion, neither of which is an option for incumbent carriers in South Carolina. If the firms operating in the telecom market in South Carolina can successfully differentiate their products, they will each enjoy some degree of market power. But that is not an abuse of market power, anymore than Sears is abusing market power if it charges a slightly higher price for a washing machine that bears the Sears-Kenmore brand.

If there is only one firm in a market, the ability to abuse market power depends on successfully keeping new entrants out of the market. This is also not possible when the market is open, unless the firm has significant economies of scale that make it a natural monopoly. In the case of the South Carolina telecom market, the fact that network elements are unbundled and available to competitors means that the incumbent's economies of scale can be replicated by any potential competitor. Therefore they cannot be a barrier to entry. Furthermore, because competitors are not required to serve the entire market, as incumbents are, it is possible for pure facilities-based providers to overbuild sections of the incumbent's network—in the higher density, lower cost portions of the region—and essentially gain greater economies of scale than the incumbent enjoys. In these situations, a facilities-based competitor can essentially beat the incumbent at its own economies-of-scale game.

V. SUMMARY/CONCLUSION

Q. Please summarize your testimony.

A. Abuse of market position is behavioral. It involves certain actions on the part of a firm, rather than simply being characteristic of a certain type of market.

Theoretically, a company could attempt to abuse its market position by engaging in anti-competitive pricing behavior such as predatory pricing, or (in essence) pricing too low. This is consistent with Dr. Spearman's definition that abuse of market position is "any action that effectively prohibits a new firm form entering a market" (Spearman page 2). However, the likelihood of any company being able to engage in successful predatory pricing is extremely small.

Alternately, a company could attempt to abuse its market position by abusing market power, which is (in essence) pricing too high. This, however, is not anti-competitive behavior since it would actually incent other firms to enter. As a result, this is not consistent with Dr. Spearman's definition above.

Dr. Spearman's testimony discusses many potential sources of market power: economies of scale, market consolidation, control of critical inputs, bundling. I agree with Dr. Spearman that in certain unique circumstances these could possibly lead to a situation where a firm might attempt to "abuse market power" by its behavior. But those situations do not exist in the telecom market in South Carolina. The market is open to entry. Competitors can avail themselves of the incumbent firms' economies-of-scale. Competitors can bundle or tie together products or services, just as an incumbent can. Competitors can overbuild sections of the incumbents' serving areas and capture only low-cost customers. And competitors are not denied any critical inputs to production.

Q. Does this conclude your testimony?

A. Yes it does.